

## EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	400	347/11.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/08/28 12:50
L2	45544	b41j029/38.ipc.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/08/28 12:50
L3	187	b41j029/38.ipc. and (stable stability) with (ejection ejected)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/08/28 12:57
L4	53	347/11.ccls. and (stable stability) with (ejection ejected)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/08/28 13:31
L5	173	347/9,10,68.ccls. and (stable stability) with (ejection ejected)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/08/28 13:31
L6	6	("4879568"   "4887100"   "5028936").PN. OR ("6416149").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2006/08/28 13:31
L7	4	("5369428"   "5475800"   "5661507").PN. OR ("6419339").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2006/08/28 13:31
L8	3	("4879568"   "4887100"   "5028936").PN. OR ("6412896").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2006/08/28 13:35
S80	28	((droplet adj volume) same determining)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/08/17 07:23

## EAST Search History

S81	29	(US-20010043241-\$ or US-20010043242-\$ or US-20020036667-\$ or US-20030164868-\$ or US-20040095404-\$ or US-20050024400-\$ or US-20040090476-\$).did. or (US-4369455-\$ or US-4563689-\$ or US-4897665-\$ or US-5736994-\$ or US-5764256-\$ or US-5903286-\$ or US-6099103-\$ or US-6254213-\$ or US-6257685-\$ or US-6296341-\$ or US-6350003-\$ or US-6386665-\$ or US-6412923-\$ or US-6419336-\$ or US-6464315-\$ or US-6488349-\$ or US-6527354-\$).did. or (JP-11020165-\$ or JP-11170516-\$ or JP-2001310461-\$ or JP-2001315330-\$ or JP-2001322272-\$).did.	US-PGPUB; USPAT; JPO	OR	ON	2005/08/17 07:24
S82	18	S81 and small	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/08/17 07:26
S83	2	S81 and ((large near small) (medium near small))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/08/17 07:27
S84	1023	gradation and ((large near small) (medium near small))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/08/17 07:27
S85	169	"347".clas. and gradation and ((large near small) (medium near small))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/08/17 07:27
S86	105	"347".clas. and gradation and ((large near small) (medium near small))	USPAT	OR	ON	2005/08/17 07:27
S87	1	"20030085962".pn. and small and gradation	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/08/17 09:13

## EAST Search History

S88	3926	(347/9,10,11,14,68).CCLS.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/08/17 09:11
S89	2613	S88 and (pzt piezo\$ transducer)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/08/17 09:11
S90	723	S88 and (pzt piezo\$ transducer)and (actuator)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/08/17 09:11
S91	3926	(347/9,10,11,14,68).CCLS.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/08/17 09:11
S92	723	S91 and (pzt piezo\$ transducer)and (actuator)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/08/17 09:11
S93	55	S91 and (pzt piezo\$ transducer)and (actuator near control\$3)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/08/17 09:11
S94	123	iwao-naoto.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/08/17 09:11
S95	4	matsumoto-ayumu.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/08/17 09:11
S96	14	iwao-naoto.in. and (actuator)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/08/17 09:11
S97	27	("4104646"   "4112433"   "4266232"   "4291316").PN. OR ("4369455").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2005/08/17 09:11

## EAST Search History

S98	36	("4104646"   "4161670"   "4284996"   "4352114"   "4369455"   "4393384"   "4424520"   "4491851"   "4509059"   "4523201"   "4532200"   "4563689"   "4577201"   "4639735"   "4714935"   "4716418"   "4743924"   "4752790").PN. OR ("4897665").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2005/08/17 09:11
S99	260617	"36" and pulse!	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/08/17 09:11
S100	33	S98 and pulse!	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/08/17 09:11
S101	18	S98 and (pulse! adj width!)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/08/17 09:11
S102	11	S98 and ((pulse! adj width!) same voltage)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/08/17 09:11
S103	9	S98 and ((pulse! adj width!) with voltage)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/08/17 09:11
S104	36606	((pulse! adj width!) with voltage)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/08/17 09:11
S105	3777	((pulse! adj width!) with voltage) and (pzt piezo\$ transducer)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/08/17 09:11
S106	799	S105 and actuator	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/08/17 09:11

## EAST Search History

S10 7	28	propagat\$4 and S93	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/08/17 09:11
S10 8	23	(US-20010043242-\$ or US-20040095404-\$ or US-20030164868-\$ or US-20010043241-\$).did. or (US-4369455-\$ or US-4897665-\$ or US-6257685-\$ or US-6527354-\$ or US-5764256-\$ or US-4563689-\$ or US-6419336-\$ or US-6412923-\$ or US-6386665-\$ or US-6350003-\$ or US-6254213-\$ or US-6099103-\$ or US-5903286-\$ or US-5736994-\$). did. or (JP-11020165-\$ or JP-11170516-\$ or JP-2001310461-\$ or JP-2001315330-\$ or JP-2001322272-\$).did.	US-PGPUB; USPAT; JPO	OR	ON	2005/08/17 09:11
S10 9	15	S108 and propagat\$4	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/08/17 09:11
S11 0	2	("6488358").PN.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/08/17 09:11
S11 1	120	347/10.ccls. and (pzt pezo\$ transducer)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/08/17 09:11
S11 2	14	(347/10.ccls. and (pzt pezo\$ transducer)) and propagat\$4	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/08/17 09:11
S11 3	3926	(347/9,10,11,14,68).CCLS.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/08/17 09:11
S11 4	2613	S113 and (pzt piezo\$ transducer)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/08/17 09:11

## EAST Search History

S11 5	6096	(pzt piezo\$ transducer) and (actuator) and (propagat\$4)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/08/17 09:11
S11 6	3350	((pzt piezo\$ transducer) with (actuator) and (propagat\$4))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/08/17 09:11
S11 7	39	(((pzt piezo\$ transducer) with (actuator)) and (propagat\$4)) with pulse	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/08/17 09:11
S11 8	20	(((pzt piezo\$ transducer) with (actuator)) and (propagat\$4)) with pulse) not 347/9,10,11,68.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/08/17 09:11
S11 9	3243	(((pzt piezo\$ transducer) with (actuator)) and (propagat\$4))) not 347/9,10,11,68.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/08/17 09:11
S12 0	20	(((pzt piezo\$ transducer) with (actuator)) and (propagat\$4))) and 310/311.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/08/17 09:11
S12 1	444	(propagat\$4) and (347/9,10,11,68, 14.ccls. 310/311.ccls.)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/08/17 09:11
S12 2	124	(pulse same propagat\$4) and (347/9,10,11,68,14.ccls. 310/311. ccls.)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/08/17 09:11
S12 3	115	(347/9,10,11,68.ccls.) and ((pulse adj width) same (chamber chanel))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/08/17 09:11
S12 4	117	(347/9,10,11,68.ccls.) and ((pulse adj width) same (chamber chanel cavity))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/08/17 09:11

## EAST Search History

S12 5	4	("5805177" or ("5736994")).PN.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/08/17 09:11
S12 6	39	(347/9,10,11,68.ccls.) and (((pulse adj width) same (chamber chanel cavity)) same (less greater shorter equal))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/08/17 09:11
S12 7	3	("5805177"   "6086189"   "6217159").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2005/08/17 09:11
S12 8	5	("6260959" or ("6523932")).PN.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/08/17 09:11
S12 9	5	("6260959" or ("6523923")).PN.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/08/17 09:11
S13 0	1	(US-6099103-\$).did.	USPAT	OR	ON	2005/08/17 09:11
S13 1	1	S130 and nozzle	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/08/17 09:11
S13 2	1	S130 and (nozzle same chamber)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/08/17 09:11
S13 3	2	"20040090476".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/08/17 09:11
S13 4	6	(347/9,10,11,68.ccls.) and (((pulse adj width) same (chamber chanel cavity)) same (microsecond (micro adj second)))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/08/17 09:11
S13 5	6	(347/9,10,11,68.ccls.) and (((pulse adj width) same (chamber chanel cavity)) same (microsecond (micro adj second ".mu.s")))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/08/17 09:11

## EAST Search History

S13 6	117	((pulse adj width) same (chamber chanel cavity)) same (microsecond (micro adj second ".mu.s")))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/08/17 09:11
S13 7	1035	((propagation same time) same (microsecond (micro adj second ". mu.s"))))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/08/17 09:11
S13 8	11	"347".clas. and ((propagation same time) same (microsecond (micro adj second ".mu.s"))))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/08/17 09:11
S13 9	24	"347".clas. and ((propagation same time) same (microsecond ms (micro adj second) ".mu.s")))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/08/17 09:11
S14 0	24	"347".clas. and ((propagation same time) same (microsecond ms (micro adj second) ".mu.s" "m/sec")))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/08/17 09:11
S14 1	6	"347".clas. and (((one adj way) one-way) near propagation) same (microsecond ms (micro adj second) ".mu.s")))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/08/17 09:11
S14 2	46	"347".clas. and (((one adj way) one-way) near propagation)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/08/17 09:11
S14 3	0	".mu.sec."	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/08/17 09:11
S14 4	0	".mu.s"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/08/17 09:11
S14 5	6	"347".clas. and (((one adj way) one-way) near propagation) same (microsecond ms (micro adj second) mu))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/08/17 09:11

## EAST Search History

S14 6	198881	mu	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/08/17 09:11
S14 7	1616	"347".clas. and (pressure adj wave) and (microsecond (micro adj second) ms mu)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/08/17 09:11
S14 8	96	"347".clas. and (pressure adj wave) same (microsecond (micro adj second) ms mu)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/08/17 09:11
S14 9	1	"6099103".pn. and gradation	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/08/17 09:11
S15 0	2	11-170515	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/08/17 09:11
S15 1	29	(US-20010043241-\$ or US-20010043242-\$ or US-20020036667-\$ or US-20030164868-\$ or US-20040095404-\$ or US-20050024400-\$ or US-20040090476-\$).did. or (US-4369455-\$ or US-4563689-\$ or US-4897665-\$ or US-5736994-\$ or US-5764256-\$ or US-5903286-\$ or US-6099103-\$ or US-6254213-\$ or US-6257685-\$ or US-6296341-\$ or US-6350003-\$ or US-6386665-\$ or US-6412923-\$ or US-6419336-\$ or US-6464315-\$ or US-6488349-\$ or US-6527354-\$).did. or (JP-11020165-\$ or JP-11170516-\$ or JP-2001310461-\$ or JP-2001315330-\$ or JP-2001322272-\$).did.	US-PGPUB; USPAT; JPO	OR	ON	2005/08/17 09:11
S15 2	3	S151 and (waveform same gradation)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/08/17 09:11

## EAST Search History

S15 3	13	S151 and (waveform and gradation)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/08/17 09:11
S15 4	819	(gradation and (pulse adj generator))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/08/17 09:11
S15 5	186	((pixel same gradation) and (pulse adj generator))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/08/17 09:11
S15 6	0	"20040090476".pn. and ((droplet adj volume) same determinin)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/08/17 09:11
S15 7	1	"20040090476".pn. and ((droplet adj volume) same determining)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/08/17 09:11
S15 8	28	((droplet adj volume) same determining)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/08/17 09:11
S15 9	29	(US-20010043241-\$ or US-20010043242-\$ or US-20020036667-\$ or US-20030164868-\$ or US-20040095404-\$ or US-20050024400-\$ or US-20040090476-\$).did. or (US-4369455-\$ or US-4563689-\$ or US-4897665-\$ or US-5736994-\$ or US-5764256-\$ or US-5903286-\$ or US-6099103-\$ or US-6254213-\$ or US-6257685-\$ or US-6296341-\$ or US-6350003-\$ or US-6386665-\$ or US-6412923-\$ or US-6419336-\$ or US-6464315-\$ or US-6488349-\$ or US-6527354-\$).did. or (JP-11020165-\$ or JP-11170516-\$ or JP-2001310461-\$ or JP-2001315330-\$ or JP-2001322272-\$).did.	US-PGPUB; USPAT; JPO	OR	ON	2005/08/17 09:11

## EAST Search History

S16 0	18	S159 and small	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/08/17 09:11
S16 1	2	S159 and ((large near small) (medium near small))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/08/17 09:11
S16 2	1023	gradation and ((large near small) (medium near small))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/08/17 09:11
S16 3	169	"347".clas. and gradation and ((large near small) (medium near small))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/08/17 09:11
S16 4	105	"347".clas. and gradation and ((large near small) (medium near small))	USPAT	OR	ON	2005/08/17 09:11